IN THE CLAIMS

Claims 1-62 (Cancelled).

63. (Currently Amended) A process for characterizing DNA comprising a step of isolating nucleic acids, wherein the step of isolating comprises the steps of:

a. contacting a biological material that contains DNA with a solid support treated with a lysing reagent and a RNA digesting enzyme, wherein the solid support is free of a biological material at the time of treatment with the lysing reagent and RNA digesting enzyme, wherein the lysing reagent is of a type suitable to preserve the RNA digesting function of the RNA digesting enzyme and is used in an amount suitable to cause lysis of the biological material to release DNA from the biological material;

b. treating the biological material that contains DNA with a DNA purifying reagent;

c. purifying the DNA from the remainder of the biological material; and

d. analyzing the purified DNA.

64. (Currently Amended) A process for characterizing DNA comprising a step of isolating nucleic acids, wherein the step of isolating comprises the steps of:

a. contacting a biological material that contains DNA with a solid support treated with a lysing reagent comprising a RNA digesting enzyme, wherein the solid support is free of a biological material at the time of treatment with the lysing reagent, wherein the lysing reagent is of a type suitable to preserve the RNA digesting function of the RNA digesting enzyme and is used in an amount suitable to cause lysis of the biological material to release DNA from the biological material;

b. treating the biological material that contains DNA with a DNA purifying reagent;

c. purifying the DNA from the remainder of the biological material; and

d. analyzing the purified DNA.

65. (Currently Amended) A process for characterizing DNA comprising a step of isolating nucleic acids, wherein the step of isolating comprises the steps of:

a. contacting a biological material that contains DNA with a solid support treated with a lysing reagent and a RNA digesting enzyme, wherein the solid support is free of a biological material at the time of treatment with the lysing reagent and RNA digesting enzyme, wherein the lysing reagent is bound to the solid support in an amount suitable to cause lysis of biological material to release DNA from the biological material and binding of said DNA to the solid support and is of a type suitable to preserve the RNA digesting function of the RNA digesting enzyme, and the RNA digesting enzyme is bound to the solid support, wherein any unbound lysing reagent and unbound RNA digesting enzyme is removed from the solid support before the biological material is contacted with the solid support.;

b. treating the biological material that contains DNA with a DNA purifying reagent;

c. purifying the DNA from the remainder of the biological material; and

d. analyzing the purified DNA.

66. (Currently Amended) A process for characterizing DNA comprising a step of isolating nucleic acids, wherein the step of isolating comprises the steps of:

a. contacting a biological material that contains DNA with a solid support treated with a lysing reagent comprising a RNA digesting enzyme, wherein the solid support is free of a biological material at the time of treatment with the lysing reagent, wherein the lysing reagent is bound to the solid support in an amount suitable to cause lysis of biological material to release DNA from the biological

material and binding of said DNA to the solid support and is of a type suitable to preserve the RNA digesting function of the RNA digesting enzyme, wherein any unbound lysing reagent is removed from the solid support before the biological material is contacted with the solid support;

b. treating the biological material that contains DNA with a DNA purifying reagent;

c. purifying the DNA from the remainder of the biological material; and

d. analyzing the purified DNA.

67. (Previously presented) The process for characterizing DNA of claims 63 to 66, wherein the RNA digesting enzyme is RNase.

68. (Previously presented) The process for characterizing DNA of claims 63 to 66, further comprising a step of applying a DNA eluting reagent to the solid support, wherein the DNA eluting reagent comprises:

(i) a buffer;

(ii) a base;

(iii) a chelating agent; and

(iv) water.

69. (Previously presented) The process of claims 63 to 66, wherein the solid support is contained in a vessel, wherein the vessel is selected from a group consisting of centrifuge tubes, spin tubes, syringes, cartridges, chambers, multiple-well plates, test tubes, and combinations thereof.

70. (Previously presented) The process according to claims 63 to 66, comprising the further step of heating the solid support to greater than 60°C.

71. (Previously presented) The method of claims 63 to 66, wherein the biological material is selected from the group consisting of eukaryotic cells, prokaryotic cells, microbial cells, bacterial cells, plant cells, mycoplasma, protozoa, fungi, viruses, and lysates and homogenates thereof.

72. (Previously presented) The method of claims 63 to 66, wherein the biological material is selected from the group consisting of body fluids, body waste products, excretions, and tissues.

73. (Previously presented) The method of claims 63 to 66, wherein the biological material is an environmental sample taken from air, water, sediment or soil.

74. (Previously presented) The process according to claim 71, further comprising the step of counting eukaryotic cells when the biological material is eukaryotic cells.

75. (Previously presented) The process according to claim 71, further comprising the step of counting prokaryotic cells when the biological material is prokaryotic cells.

76. (Previously presented) The process according to claim 71, further comprising the step of counting viruses when the biological material is viruses.

77. (Previously presented) The process according to claims 63 to 66, wherein the isolating step further comprises the step of analyzing the remainder of the lysate.

78. (Previously presented) The process according to claims 63 to 66, wherein the isolating step further comprises the step of analyzing the remainder of the biological material.

79. (Previously presented) The process according to claim 77, wherein the analyzing step further comprises the step of monitoring impurities.

80. (Previously presented) The process according to claims 63 to 66, further comprising the step of quantitating the purified DNA.

81. (Previously presented) The process according to claims 63 to 66, further comprising the step of adjusting the concentration of DNA.

82. (Previously presented) The process according to claims 63 to 66, further comprising the step of evaluating the purified DNA.

83. (Previously presented) The process according to claim 82, wherein the step of evaluating the purified DNA further comprises the step of determining the yield of purified DNA.

84. (Previously presented) The process according to claim 82, wherein the step of evaluating the purified DNA further comprises the step of determining the size of the purified DNA or fragments thereof.

85. (Previously presented) The process according to claim 82, wherein the step of evaluating the purified DNA further comprises a step of determining the purity of DNA.

86. (Previously presented) The process according to claim 82, wherein the step of evaluating the purified DNA further comprises a step of digesting the purified DNA with a restriction enzyme or other DNA modifying enzyme.

87. (Previously presented) The process according to claim 82, wherein the step of evaluating the purified DNA further comprises a step of analyzing the sequence of the purified DNA.

88. (Previously presented) The process according to claim 82, wherein the step of evaluating the purified DNA further comprises a step of conducting a hybridization analysis on the purified DNA.

89. (Previously presented) The process of claims 63 to 66, wherein the biological material is applied to the solid support without any prior treatment of the biological material.

90. (Previously presented) The process of claims 63 to 66, wherein the solid support is selected from the group consisting of cellulose, cellulose acetate, glass fiber, nitrocellulose, nylon, polyester, polyethersulfone, polyolefin, polyvinylidene fluoride, and combinations thereof.

91. (Previously presented) The process of claim 90, wherein the polyolefin is a mixture of low density polyethylene and polypropylene fibers.

92. (Previously presented) The process of claim 91, wherein the polyolefin is hydrophilic.

93. (Previously presented) The process of claim 91, wherein the polyolefin has a charge.

94. (Previously presented) The process of claims 63 to 66, wherein the lysing reagent comprises:

a. a detergent effective to lyse the biological material sufficiently to release DNA; and

b. water.

95. (Previously presented) The process of claims 63 to 66, wherein the lysing reagent comprises:

a. a detergent effective to lyse the biological material sufficiently to release DNA; and

b. water; but does not contain a buffer.

96. (Previously presented) The process of claims 63 to 66, wherein the lysing reagent comprises:

a. a detergent effective to lyse the biological material sufficiently to release DNA; and

b. water; but does not contain a chelating agent.

97. (Previously presented) The process of claims 63 to 66, wherein the lysing reagent comprises:

(a) a detergent effective to lyse the biological material sufficiently to release DNA;

(b) a chelating agent to reduce damage to DNA; but does not contain a buffer.

98. (Previously presented) The process of claims 63 to 66, wherein the lysing reagent comprises:

a. a detergent effective to lyse the biological material sufficiently to release DNA;

b. a buffer; but does not contain a chelating agent.

99. (Currently Amended) The process of claim 68, wherein the DNA eluting reagent has a pH of at least [about] 10, and the combined concentration of buffer, base, and chelating agent is no greater than about 20 mM, based on the total volume of the DNA eluting reagent.

100. (Currently Amended) The process of claim 68, wherein the DNA eluting reagent has a pH of at least [about] 9, and the combined concentration of buffer, base, and chelating agent is no greater than about 20 mM, based on the total volume of the DNA eluting reagent.

101. (Previously presented) The process according to claims 63 to 66, further comprising a step of amplifying the purified DNA, wherein the purified DNA is applied to an amplification system to create amplified DNA.

102. (Previously presented) The process of claim 101, wherein the amplification system comprises buffer, primers, deoxyribonucleotides, a thermostable DNA polymerase, and a programmable heating element.

103. (Previously presented) The process of claims 101, further comprising the step of quantitating the amplified DNA.

104. (Previously presented) The process of claims 101, further comprising the step of evaluating the amplified DNA.

105. (Previously presented) The process of claim 104, wherein the step of evaluating the amplified DNA further comprises a step of determining the size of the amplified DNA.

106. (Previously presented) The process of claim 104, wherein the step of evaluating the amplified DNA further comprises a step of digesting the amplified DNA with a restriction enzyme.

107. (Previously presented) The process according to claim 104, wherein the step of evaluating the amplified DNA further comprises a step of sequencing the amplified DNA.

108. (Previously presented) The process according to claim 104, wherein the step of evaluating the amplified DNA further comprises a step of analyzing the sequence of the amplified DNA.

109. (Previously presented) The process according to claim 104, wherein the step of evaluating the amplified DNA further comprises the step of conducting a hybridization analysis on the amplified DNA.